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ABSTRACT

This evaluation study was conducted to determine the impact of the Title I project and its relationship to the district educational program. The achievement gains by grade levels of students who participated in Title I were presented on graphs in normal curve equivalent (NCE) units. The positive impact of the program was illustrated by NCE gains beyond expectations. The achievement maintenance of student participants was measured by the California Achievement Test. The project was most effective in maintaining students close to anticipated achievement when the intervention program began at the second grade level. After two years of participation, the achievement gains began to diminish. The perceptions and concerns of school personnel regarding the project within the district were measured. The project had minimal integration within the total district curriculum and sometimes had generated resentment. The study determined the necessity for school districts to establish a broader base of evaluation information in order to make educationally sound decisions regarding continuance of educational programs. Data to evaluate programs should be collected over content areas, as well as reading tests, over a longer time to enable overall effectiveness to be evaluated. (DWH)

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Evaluation of a Title I Project: Beyond Federal Requirements[1]

by

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Introduction

The Title I program, the first Title of the Elementary and Secondary Education Act of 1965, was designed to meet the educational needs relative to the learning of basic skills of educationally disadvantaged children in low-income areas. Thus, as a compensatory education program, Title I was intended to assist in providing school library resources, text books, and other instructional materials for the use of children and teachers and to support supplementary centers and services for educationally disadvantaged children. While Title I regulations have required the submission

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of annual evaluation reports since the program originated, the lack of uniformity and consistency in the nature and format of the information reported resulted in an inability to aggregate data to make comparisons or judgments regarding program effectiveness. To attempt to resolve this issue, the legislative mandate of the Educational Amendments of 1974 (P.L. 93-380) directed that uniform evaluation procedures and criteria for utilization by all programs funded under the act be developed. Hence, the Title I evaluation and reporting system was established (Tallmadge & Wood, 1980). The system provided for data to be collected and/or aggregated on six topics: (a) participation, (b) parent advisory councils, (c) personnel, (d) training, (e) cost, and (f) impact. The major emphasis was on the latter area, impact.

While this evaluation information does allow a school district to judge program effectiveness on the basis of student gain, the guidelines generally prescribe only a limited examination of pupil gains on a single subject test (e.g. reading) and during a single project year. Longitudinal data are collected only every three years and only for the period including a project year and the beginning of the next project year. Additional information is required to provide a broader base from which a district can view its program in relation to the educational goals of the system.

Problem Statement

This evaluation study was designed to examine a Title I project across a four-year period. In addition to the evaluation of student gain on an annual basis, the study further examined the achievement across broad curricular areas of participants after terminating project participation and of students continuing project participation. Evaluation information was also gathered relative to the perceptions of the program within the district, to the resource and instructional requirements of the project,

and to the degree to which the project integrated with the total district curriculum.

Hunt (1978) has suggested that evaluation of a program may either be required, often the case with federally funded projects, or it may be conducted in order to provide information about the program. This general program information may be used for program decision making, for example to refine or alter the program relative to instructional processes, goals, or costs. Program information may also be used for dissemination either internal or external to the district. While the Title I requirements for program evaluation provide limited evidence as to the effectiveness of the program in terms of student achievement gains, the evaluation information required gives little guidance to a district in making program decisions. Thus, the major purpose of this evaluation study was to provide program information in two areas: to determine the impact of the program and to determine the degree to which the program meshes with the total district program. Specifically, the study was based on the following objectives:

I. To determine the effectiveness of the Title I project.

   A. To determine the achievement gain by grade and by year of students who participate in Title I.

   B. To determine achievement maintenance of students following their participation in the project.

   C. To determine achievement maintenance of students who continue to participate in the project.

II. To determine the relationship of the Title I project to the district educational program.

   A. To determine perceptions of school personnel regarding the Title I project within the district.

   B. To determine the instructional costs and services provided by the Title I project.

Methods and Procedures

The Project Description

This evaluation study was conducted in an urban, Midwestern school district comprised of ten elementary, two junior high, and one high school school. During the period of 1977-81, the Title I project has provided supplementary reading instruction on a pull-out basis in reading centers within each building. In the five elementary schools eligible, students attend the reading centers on a daily bais for 30-minute class periods. Remedial reading instruction is provided according to each student's individual diagnosis, and students participate in both individual and small group instruction. Group instruction has, prior to 1980, been defined as no more than five per group, and in the 1980-81 project, this has been increased to no more than seven per group.

At the junior high and secondary levels, students attend the reading centers for 45- to 50-minute periods on an average of two to four times per week. Instruction is prescribed on an individual basis--determined by diagnostic information. Either individual or group instruction may be provded with groups defined as not to exceed ten students per group.

Supportive services, including speech therapists, school psychologists, counselors, and administrative personnel are provided by a special service team to each center. In addition, at all levels, reading teachers and classroom teachers are required to coordinate instructional activities of the centers with all content areas in the curriculum.

Selection for project participation at the elementary level has primarily been by referral based on below-average placement in the district basal reading program. At the junior high and senior high levels, referral is also utilized and, additionally, the Gates MacGinitie Reading Test or

the Stanford Diagnostic Reading Test is used respectively for participation selection. Title I teachers at all levels may administer further diagnostic tests to determine specific instructional needs of individual students. The impact of the Title I project has been based on pre- and postscores from the Stanford Achievement Tests, which are administered in October and May of each year.

Parental involvement has included written notification of student selection for participation, progress reports, parent-teacher conferences, and the Parent Advisory Committee newsletter. In addition a slide-tape presentation has been prepared for community information, and project reports have been made through public channels.

The Title I project has also provided for in-service training to provide teachers and aides with an opportunity to learn about new or improved programs and to exchange ideas. Training activities consist of workshops, consultants, staff meetings, observation of other programs, and demonstrations of service, techniques, and materials.

The project staff has included a full-time director during the past four years. In 1977-78 the instructional staff consisted of 18 teachers and 12 aides. In 1980-81 the staff consisted of 21 teachers and 16 aides. All centers are staffed with certified remedial reading teachers, having either a B.A. or B.S. degree in education with a major or minor in Remedial Reading/Special Reading, or an M.A. or M.S. in education with a major in Remedial Reading/Special Reading/Reading Disabilities. The lead teacher in each center is required to hold either the M.A. or M.S. degree. Paraprofessionals work under the direct supervision of the reading center teachers. In addition, the designated reading center coordinator serves

to coordinate the project across the district and to assist reading center teachers or the director as necessary.

Participants

The participants in this study included students, classroom teachers, Title I teachers, and administrators. Sampling of these groups varied relative to the objective being addressed.

Instruments

Two survey instruments were used in the study. The Stages of Concern Questionnaire (SoC, Hall, George, & Rutherford, 1979) was selected to assess the concerns of school personnel relative to the Title I project. Another instrument was developed specifically for the study, the Perceptions of the Program (PoP). This instrument focused on program perceptions with regard to the resources necessary for project operation, the processes of the project, and the program outcomes. A structured interview format was also designed to provide a means of validating the survey information. All instruments were reviewed and approved by colleagues trained in evaluation and by the Title I evaluation committee.

Procedures

Four primary evaluation methods were utilized: the survey or questionnaire, the structured interview, observation, and document review and analysis. It was the intent, by the use of a variety of approaches, to sample as broad a perspective as possible, to maximize input from a variety of positions, and to cross-validate the information obtained. In order to assess the impact of the Title I Project on student achievement, Title I evaluation reports were reviewed for the 1977-81 period. The NCE gain by grade by year was determined from the evaluation reports. Title I

participants in 1977-78 were identified, and their standardized test scores for the district testing program (California Achievement Tests) reported during the 1977-81 period were identified. Of those students having participated in 1977-78, achievement maintenance after participation and for those with continued participation was examined.

All questionnaire, interview, and observation information was gathered during two two-day site visits during a nine-day period in April of 1981. In examining the relationship of the Title I project to the district educational program, all school personnel were asked to respond to the PoP and the SoC. For each building in the district, packets were prepared that included a set of standardized instructions for responding and a set of the PoP and the SoC. Mailing envelopes addressed to the evaluators were included. Color coding was used to permit analysis of five subgroups, e.g. administrators, Title I teachers, elementary teachers in Title I buildings, elementary teachers in non-Title I buildings, and junior and senior high school teachers. The evaluators explained the instructions and procedures to all principals at a meeting. In order to validate responses to these survey instruments, structured interviews were conducted within the district. All administrative personnel, all Title I teachers, and a 20 percent random sample of other teachers were interveiwed. A total of 135 interviews were conducted during the site visits in the district. Observations were conducted in all Title I reading centers to gather information relative to program operational processes.

In addition, Title I grant applications for the years 1977-81 and their corresponding evaluation reports were reviewed to determine instructional costs, personnel requirements, and services rendered under the

project. Finally, a document review of the Title I guidelines was conducted in order to determine allowable instructional alternatives. In addition, a sampling of Title I evaluation reports from other districts having different project designs was reviewed in order to identify possible instructional alternatives which have been found to be effective.

Results

The results of the evaluation study are presented relative to each evaluation question. The first part includes the project impact on student achievement, the next part contains information relative to the degree to which the project meshes with the total educational program of the district, and the final part includes information relative to the instructional plan.

Objective I: To determine the effectiveness of the Title I project

A. To determine the achievement gain by grade by year of students who participate in Title I.

Graphs I and II present a summary of the achievement gain by grade levels across the three years (1977-78, 1978-79, and 1979-80) of the project that are of concern in this evaluation. Graph I presents the gains of the elementary grade students in NCE (normal curve equivalent) units.

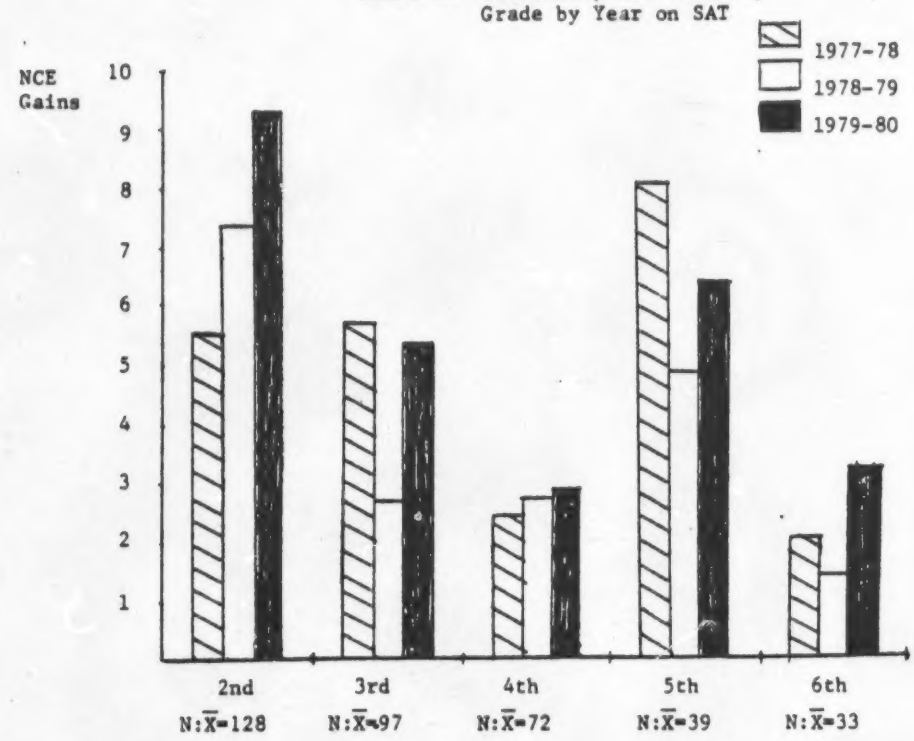
(Insert Graph I Here)

Graph II presents the gains of the secondary grade students. These gains were identified from the Title I evaluation reports presented to the board October 30, 1980.

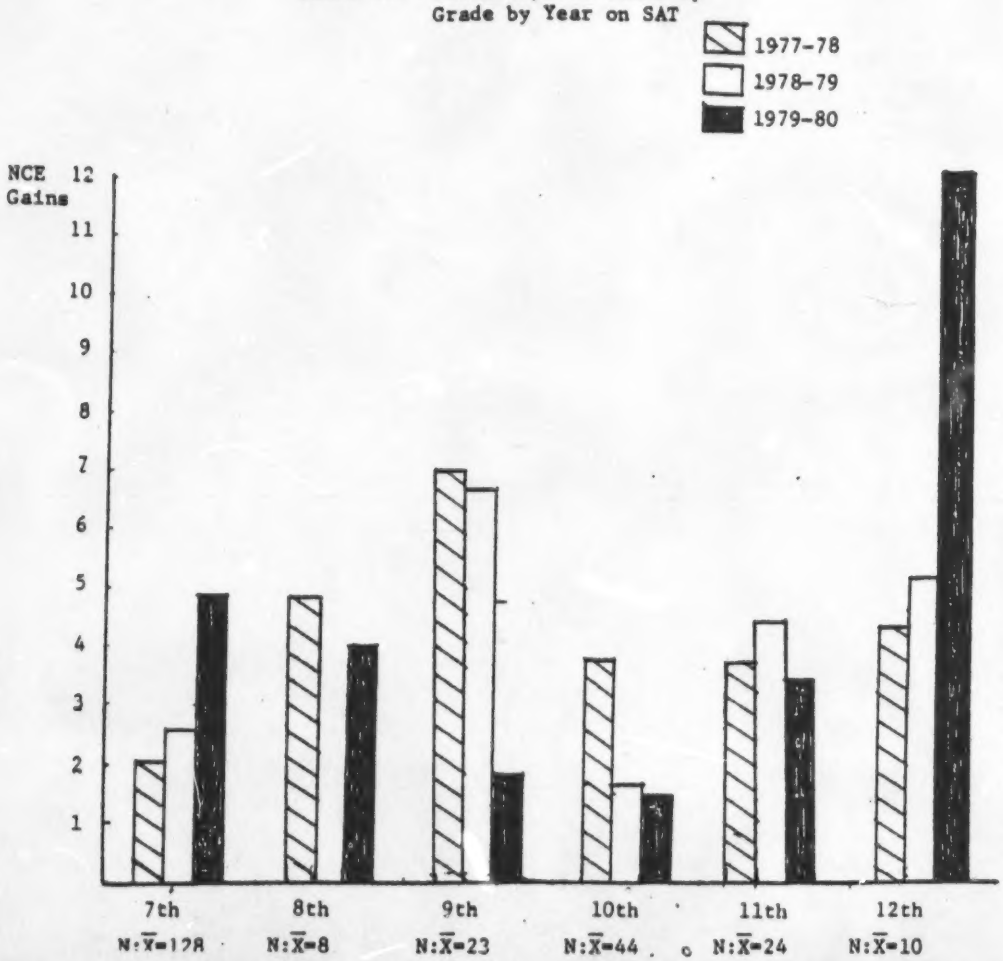
(Insert Graph II Here)

The Title I evaluation model chosen for use in this project to determine project impact is Model A1, a norm-referenced design. To implement this model, the students identified for participation in the project are

GRAPH I: Elementary NCE Gains by Grade by Year on SAT



GRAPH II: Secondary NCE Gains by Grade by Year on SAT



pre- and posttested with a nationally normed achievement test. A no-treatment expectation is determined by establishing the NCE status of the group at pretest time. The assumption is that, with no treatment, the status of the group at posttest time will remain the same. Thus the impact of the project is judged by comparing the observed posttest NCE to the exptected no-treatment performance.

It can be seen on the graphs that under the guidelines of the Model A1 evaluation design, the Title I project is consistently demonstrating NCE gains beyond what would be expected. The postive impact of this program is apparent, both for the elementary and the secondary students. The inconsistent NCE gains across years within each grade are comparable with the results reported from other studies, as are the inconsistent NCE gains across grades within each year (Evaluation of ESEA Title I, 1980; Title I in Ohio, 1978).

B. To determine the achievement maintenance of students following their participation in their project.

To determine how well the students who have participated in the Title I project have maintained their achievement, both in reading and in other subject areas, records from the district-wide testing program were examined. Tables I through IV present post participation data on the California Achievement Test (CAT) for the students who both were participants in the Title I project in 1977-78 and were included on subsequent records. Table I shows third- and fifth-grade average grade equivalent achievement scores for students who were participants at the second-grade level. In addition, anticipated grade equivalent scores, calculated on the CAT and CTMM scores, are also presented.

(Insert Table I Here)

Table II shows third- and fifth-grade average grade equivalent achievement scores and anticipated averages for students who were participants at the third-grade level.

(Insert Table II Here)

Table III shows fifth-grade average grade equivalent achievement scores and anticipated averages for students who were participants at the fourth-grade level.

(Insert Table III Here)

Table IV shows fifth-grade average grade equivalent and anticipated averages for fifth-grade students who were participants. Their eighth-grade average grade equivalent scores are also presented. The anticipated averages were not available at the eighth-grade level.

(Insert Table IV Here)

Generally the Title I project is most effective in maintaining students close to their anticipated achievement the earlier that the intervention program is begun. It should be noted that, based on the district-wide testing results, as the grade level of project participation increases, the Title I participants continue to lose ground relative to their anticipated achievement level. Graph III summarizes the fifth-grade CAT achievement averages for all of the 1977-78 participants by grade level.

(Insert Graph III Here)

It can be seen on Graph III that the relative achievement pattern for each of the grade levels is remarkably similar. In addition it should be noted that, in all achievement areas, the fifth-grade achievement level of the students who participated in Title I as second graders is consistently higher than the fifth-grade achievement levels of those students who were

TABLE I: Post Participation CAT Achievement Data for 1977-78 Second Grade Title I Participants

Test / Grade By Year	IQ	Voc. GE*	Comp. GE	Reading GE/AGE**	Math GE/AGE	Language GE/AGE	Battery GE/AGE
3rd October, 1978 (3.2) N=85	89	4.6	2.2	2.2/2.4	2.3/2.7	2.1/2.4	2.2/2.6
5th March, 1981 (5.7) N=53	90	4.7	4.3	4.5/4.5	4.7/4.8	4.1/4.6	4.4/4.6

* GE = Grade Equivalent
** AGE = Anticipated Grade Equivalent

TABLE II: Post Participation CAT Achievement Data for 1977-78 Third Grade Title I Participants

Test / Grade By Year	IQ	Voc. GE	Comp. GE	Reading GE/AGE	Math GE/AGE	Language GE/AGE	Battery GE/AGE
3rd October, 1977 (3.2) N=84	85	2.1	2.1	2.1/2.1	2.2/2.5	1.7/2.2	2.0/2.3
5th March, 1980 (5.7) N=40	88	4.1	3.9	4.0/4.2	4.5/4.7	3.8/4.5	4.1/4.5

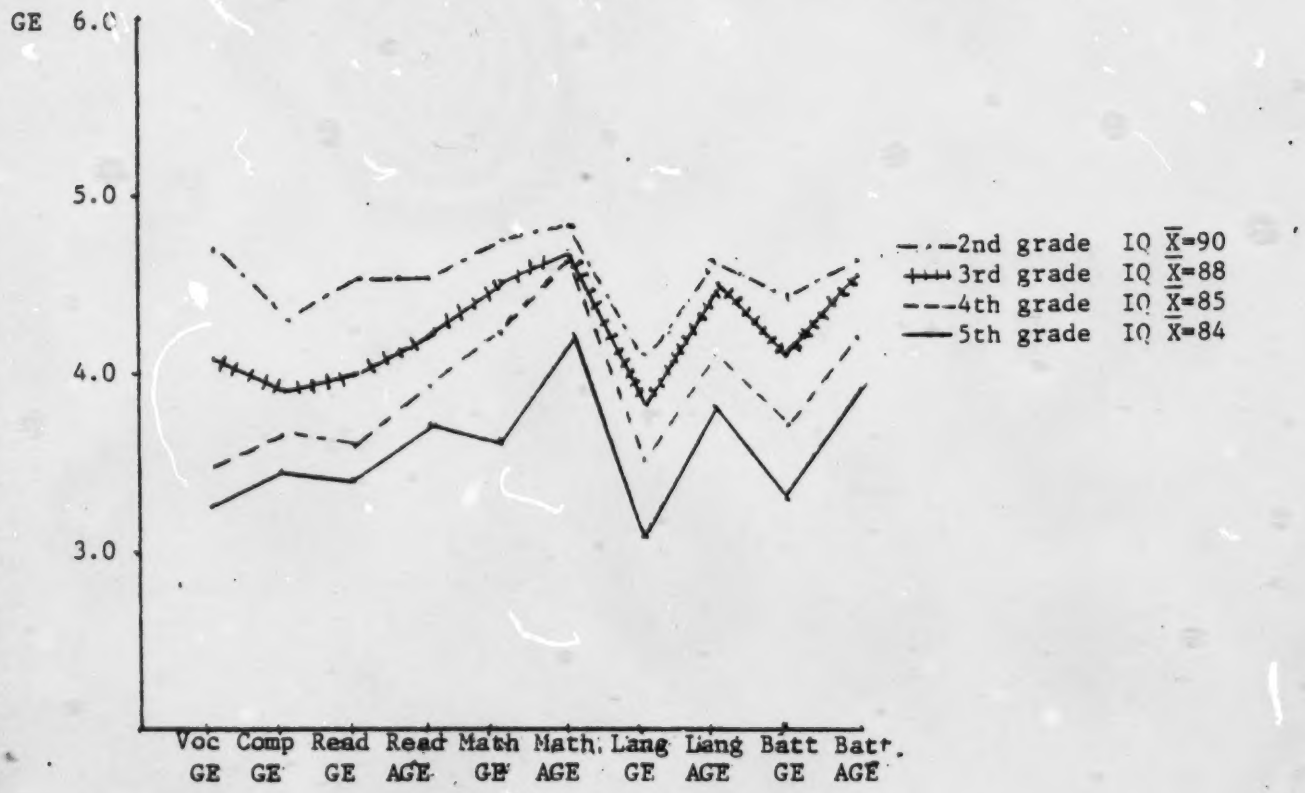
TABLE III: Post Participation CAT Achievement Data for 1977-78 Fourth Grade Title I Participants

Test / Grade By Year	IQ	Voc. GE	Comp. GE	Reading GE/AGE	Math GE/AGE	Language GE/AGE	Battery GE/AGE
5th March, 1979 (5.7) N=34	85	3.5	3.7	3.6/3.9	4.2/4.5	3.5/4.1	3.7/4.2

Table IV: Post Participation CAT Achievement Data for 1977-78 Fifth Grade Title I Participants

Test / Grade By Year		Voc. GE	Comp. GE	Reading GE/AGE	Math GE/AGE	Language GE/AGE	Battery GE/AGE
5th March, 1978 (5.7) N=32	84	3.3	3.5	3.4/3.7	3.6/4.2	3.1/3.8	3.3/3.9
8th October, 1980 (8.2) N=21		5.3	5.0	5.1	5.6	4.4	5.0

GRAPH III: 1977-78 Title I Participants CAT
Test Results at 5th Grade Level



third-, fourth-, or fifth-grade participants in Title I. It can also be seen on the graph that there is the least discrepancy between actual and anticipated achievement at this fifth-grade level for the second-grade participants. These results are consistent with other studies which have reported the greatest success of intervention programs to be at the earliest levels (Schiffman, 1962).

It can also be noted from the tables and Graph III that the average ability level for the groups drops from second to fifth. While federal guidelines do not allow the use of IQ measures for selection in a Title I program, nevertheless these results have implications for the type of intervention program planned and implemented (McCarthy, 1979).

C. To determine the achievement maintenance of students who continue to participate in the project.

In order to determine how well the students who continue to participate in Title I for more than one year maintain their achievement, the second-, third-, and fourth-grade 1977-78 data were broken down by those who continued to participate compared with those who were terminated from the program. Graphs IV through VI present the fifth-grade CAT achievement tests results from these three groups respectively.

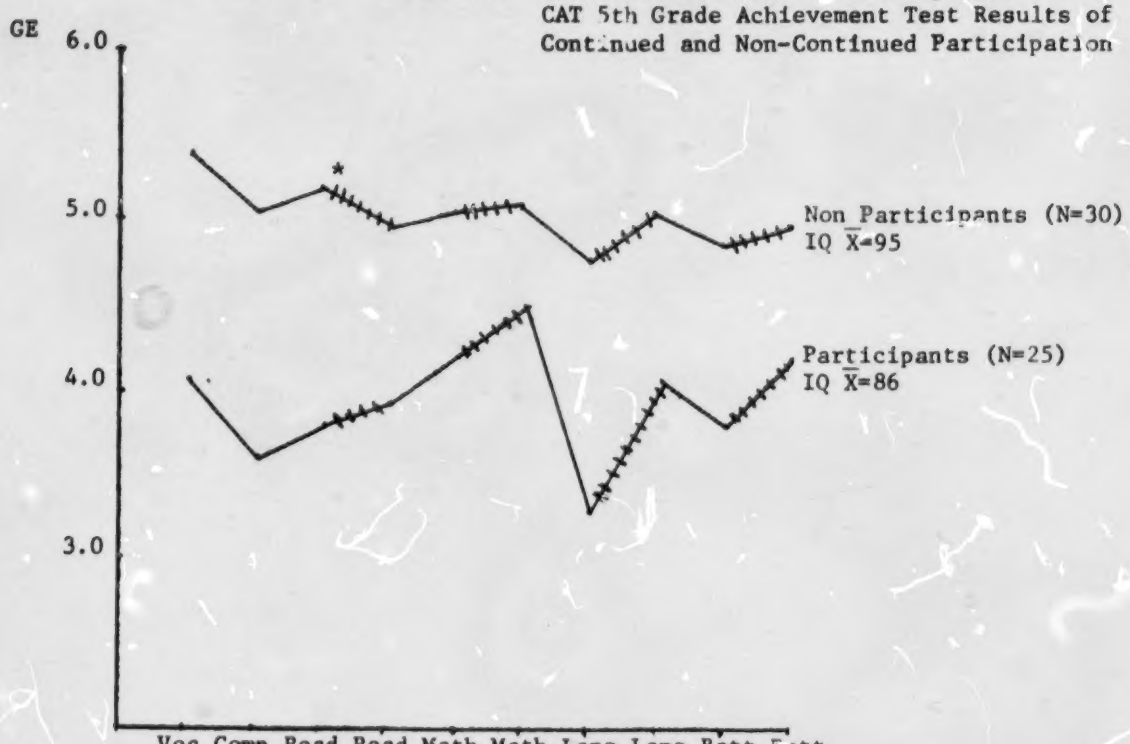
(Insert Graph IV Here)

(Insert Graph V Here)

(Insert Graph VI Here)

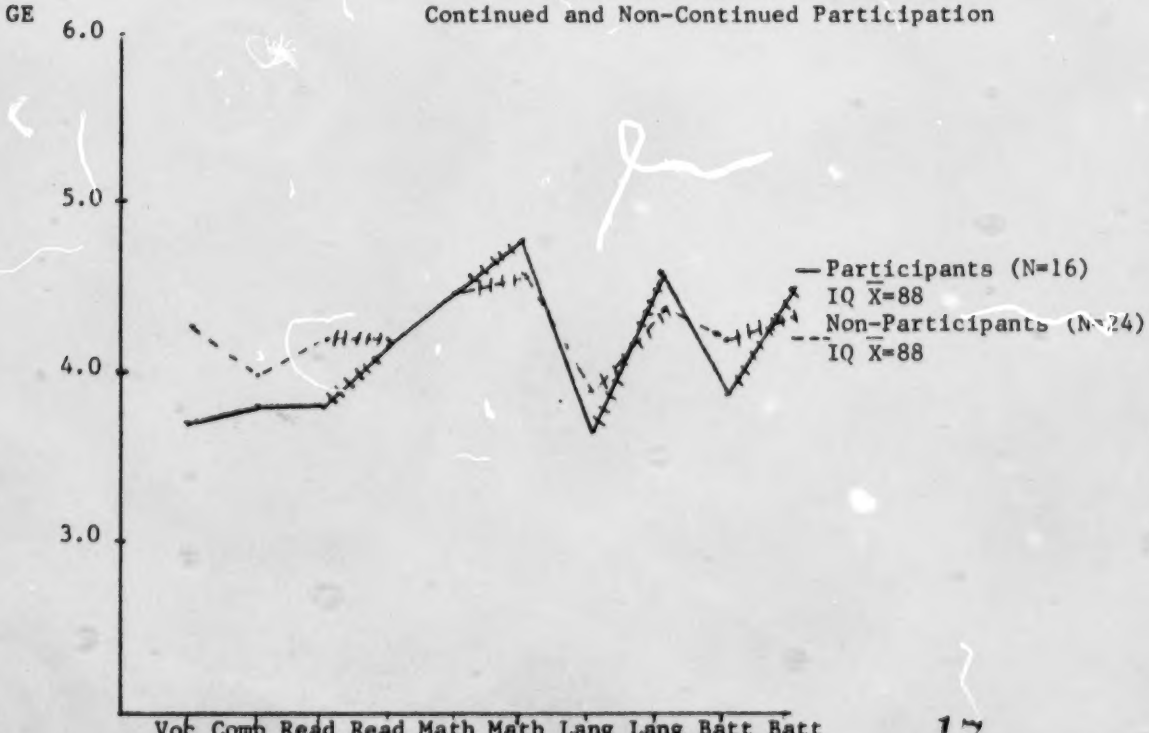
It can be seen by comparing Graphs IV, V, and VI that the fifth-grade scores of the second graders continuing to participate in Title I show similar achievement to that of the third- and the fourth-grade students who continue to participate. It can also be seen that the students who continue to participate apparently do not maintain their

GRAPH IV: 1977-78 Second Grade Participants:
CAT 5th Grade Achievement Test Results of
Continued and Non-Continued Participation

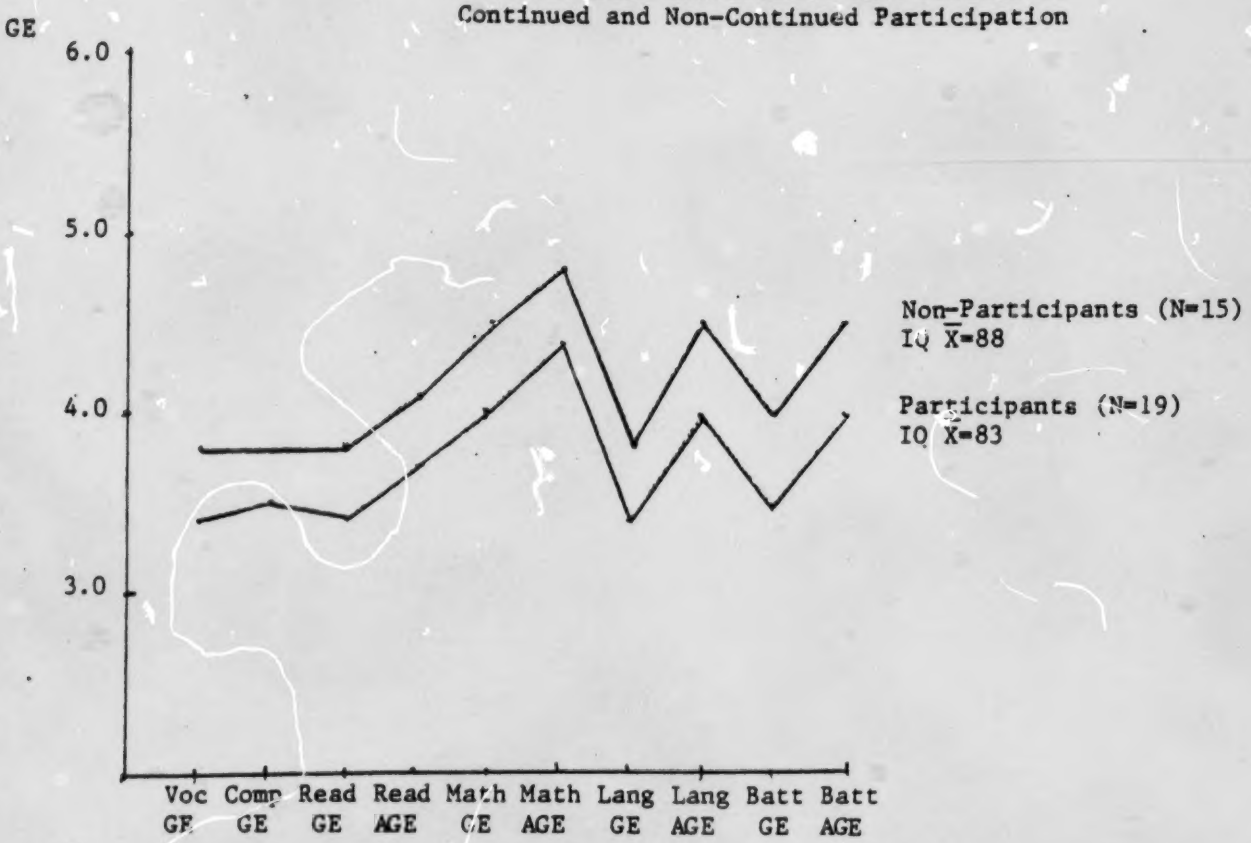


*The cross hatch marks indicate a discrepancy between achievement level and anticipated achievement level.

GRAPH V: 1977-78 Third Grade Participants
CAT 5th Grade Achievement Test Results of
Continued and Non-Continued Participation



GRAPH VI: 1977-78 Fourth Grade Participants:
CAT 5th Grade Achievement Test Results of
Continued and Non-Continued Participation



early gains. In addition the rate of growth demonstrated by these three groups of continuing participants appears to be consistent with that predicted for a group of students in the bottom 25 percent of the IQ range (Karlson, 1976), approximately .7 per year. Many of the studies regarding the impact of Title I programs would suggest that, after two years of participation in a program, the gains begin to wash out. These results appear to be comparable to those studies (Beebe, 1981).

Objective II. To determine the relationship of the Title I project to the district educational program.

A. To determine perceptions of school personnel regarding the Title I project within the district.

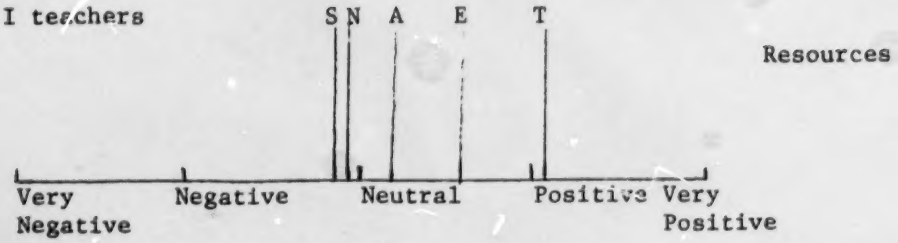
To determine the school personnel perceptions, all school personnel at all levels were asked to complete two instruments, one to assess perceptions of the program and one to assess concerns, relative to the Title I project. Graph VII shows the results for the total instrument and for the three areas, the resources available to the Title I teachers, the processes employed in the project, and the outcomes of participating in Title I.

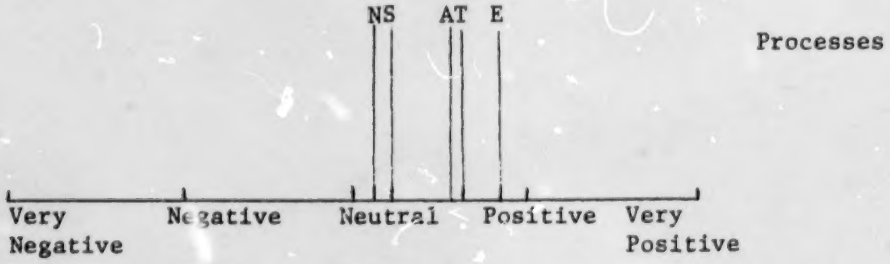
(Insert Graph VII Here)

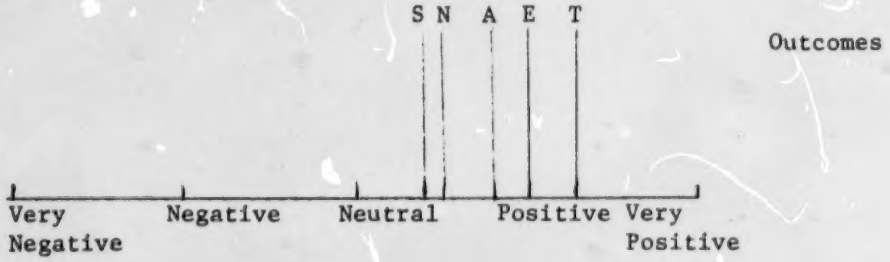
The results of this instrument are shown for five groups, all administrators (A), Title I teachers (T), elementary teachers working in Title I schools (E), elementary teachers working in non-Title I schools (N), and all junior high and senior high school teachers (S). As might be expected, all T and E groups generally view the program more positively than do the N. Somewhat of a surprise were the less positive results of the S group. Overall it can be seen that, amont the three areas assessed by this instrument, the perceptions of the outcomes of the Title I project

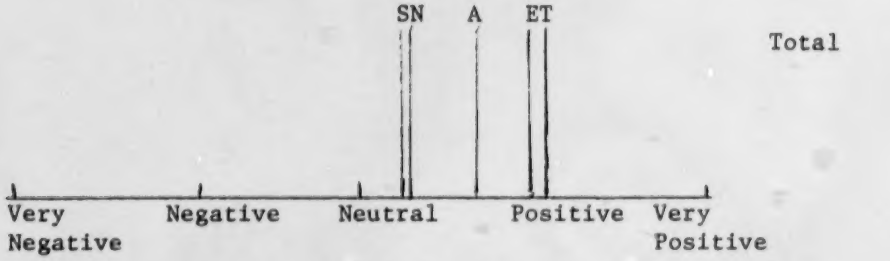
GRAPH VII: PERCEPTIONS OF PROGRAM

E -- Elem: Title I
S -- Sec: Title I
N -- Non-Title
A -- Admin.
T -- Title I teachers









are more positive than are the perceptions of the use of resources or of the processes.

The results of the Stages of Concern Questionnaire (SoCQ) generally supported the information gained from the PoP. A general lack of awareness about the program exists in the district, throughout all buildings, Title I as well as non-Title I. Additionally, little integration exists in most of the Title I schools between Title I staff and classroom teachers. Both the perceptions of the program and the concerns identified by the SoCQ were validated by structured interviews, conducted with all administrators, all Title I teachers, and a 20 percent random sample of all other teachers. The results of the interviews were consistent with the other data previously presented. Specifically:

1. While there is general support for remedial reading instruction at all levels, there exists a lack of understanding as to the purpose specifically of the Title I project, the general guidelines under which it operates, and the relationship of the project to the total district educational program.

2. There is general concern regarding the use of resources in the Title I project.

3. There is inconsistent integration of the Title I project within the various project schools in the district and a lack of clarity regarding allowable policies and procedures.

4. There is concern regarding the processes of selection and of student scheduling, particularly at the secondary level. A common concern expressed related to the amount of time required for initial diagnosis prior to instruction and the amount of time required for posttesting at the conclusion of instruction.

5. There is some concern relative to the role of building personnel in relation to the Title I staff.

6. There is much concern in non-Title I buildings regarding the lack of program/support for students with reading difficulties.

B. To determine the instructional costs, personnel requirements, and services provided by the Title I project.

From the review of the grant applications and the corresponding evaluation reports for 1977-81, instructional costs, personnel requirements,

and services provided through the Title I project were identified. Table V presents a summary of the grant costs, students estimated and reported served (with complete data), and estimated instructional staff ration (teacher + aide/student).

(Insert Table V Here)

In estimating instructional costs, several figures are reported. First, the per-pupil instructional cost is calculated using the total monies reported in the grant under the category "instructional activities and supportive services". Each yearly total monies requested was divided first by the estimated service number (grant application) and next by the number served on whom data were not reported (evaluation report). Because it was not possible to ascertain the numbers of students served on whom data were not available, the actual number of students served within the project could not be determined. In addition, because the instructional role of an aide is limited to providing only practice and reinforcement activities under the direction of the teacher, the estimated instructional ratio is figured with each aide at .5 instead of 1.0.

It can be seen on Table V that the average per pupil cost increases yearly with the average instructional ratio decreasing. Previous data reported would not indicate a subsequent increase in student achievement gain commensurate with the increase in instructional cost.

Study Limitations

In interpreting the data obtained in this ex post facto evaluation study, several limitations should be noted.

1. By the provided format of the Stanford Achievement Tests, it was necessary to examine longitudinal data from the perspective

TABLE V. Summary of Instructional Costs, Personnel, and Estimated Instructional Ratios By Years

Project Year	Total Grant Request	Instructional Cost Request	Estimated Service/ Reported Data	Per Pupil Cost (Instructional)	Instructional Staff	Est. Ratio
1977-78	$469,996.77	$352,311	1259 --- 628	$279.83 --- 561.00	18 Teachers/ 12 Aides	52:1* --- 26:1
1978-79	$508,343.37	$450,058	1109 --- 585	$405.82 --- $769.33	18 Teachers/ 15 Aides	44:1 --- 23:1
1979-80	$531,478.00	$506,223	1207 --- 606	$419.41 --- $835.35	19 Teachers/ 16 Aides	45:1 --- 22:1
1980-81	$542,004.00	$542,004	988 --- **	$548.59 ---	21 Teachers/ 16 Aides	34:1 ---

*Staff ratios are determined by counting each teacher as one unit and each aide as .5 unit.

**Evaluation report for 1980-81 not available.

of grade equivalent scores. Because of the unequal interval scale of grade equivalents, conclusions drawn from the data must be treated tenuously. Without extensive conversion to standard scores, it is not possible to view grade equivalent scores as highly accurate measures but rather as reflective of a somewhat broader range when interpreting.

2. In examining the data for longitudinal purposes, a large number of students were not able to be identified at later points in time, and in some cases, participants able to be identified had incomplete data reported for their achievement test results. Thus, the longitudinal aspect of the study reflects a limited number of participants and may not be an accurate reflection of the total population served had complete data been available.

3. Because not all evaluation report forms contained the names of students participating, follow-up data on these students was not possible to secure.

In light of these limitations, tests result data, while providing some possible indicators, should not be viewed as a complete picture of the program.

Discussion and Conclusions

The results of the study indicated annual student achievement NCE gains for each grade level, thereby demonstrating progam effectiveness as required under the Title I guidelines. However this annual gain was not evident on the longitudinal data examined either for reading or for other achievement areas. Thus, questions are raised about the nature of the gains and when they occur. In addition, the examination of achievement maintenance over time supported results of previous research (Schiffman, 1962) indicating second-grade participants maintained achievement levels to a greater degree than either third-, fourth-, or fifth-grade participants. The data also indicated, however, that all participants, while achieving close to their own expectancy, did achieve at a lower level relative to their norm group in each of the succeeding years (Beebe, 1981). Additionally the results indicated students continuing to

participate after the initial participation year, while achieving close to expectancy, achieve at a lower level than those terminated from the project at the end of the first year. It would appear that possibly those students who continue participation reflect a different ability level student than those terminating participation.

The evaluation results also indicated general district support for remedial reading instruction, but minimal awareness as to the purpose of Title I, the criteria for selection, and the guidelines and procedures under which the project operates. From both the survey results and the structured interviews, the Title I project has minimal integration within the total district curriculum and, in some cases, has generated resentment with regard to the costs, resources, and instructional coordination with the classroom teachers. While project costs have increased 115%, and the instructional ratio has decreased by approximately 50% over the four-year period, the data related to annual achievement gain as well as longitudinal achievement maintenance would suggest that alternative instructional strategies need to be examined.

Two conclusions can be drawn from this study. First, while this evaluation study focused on a single district project, the evaluation information gathered beyond that required by the Title I guidelines reflects the need for districts to broaden the scope of program evaluation. In view of current reductions in federal allocations for a variety of programs, school districts will need a broader base of evaluation information than that which is required in order to make educationally-sound decisions regarding the continuance of educational programs, particularly if their funding must be carried in part by the local district.

Finally, the results indicate that the evaluation design developed under Title I guidelines yields a picture of "effectiveness" that is questionable when a broader base of data is considered. The current status of federal funding would suggest that data should be gathered over content areas as well as on reading tests and that the data should be aggregated over a longer time period to enable the overall effectiveness of Title I programs to be evaluated.

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